

What is claimed is:

1. An acceleration sensor arrangement, an acceleration sensor comprising a first body portion, a second body portion, an interconnecting element making the first body portion integral with the second body portion and detecting means arranged for giving an indication when the second body portion damages the detecting means,

characterized in that the acceleration sensor arrangement comprises a group of at least two said acceleration sensors arranged on one carrier, at least two of the sensors responding to different forces.

2. The acceleration sensor arrangement as in claim 1, wherein the group comprises acceleration sensors responding to forces in at least three different directions.

3. The acceleration sensor arrangement as in claim 1 or 2, wherein the detecting means comprises a conductive path, strip, or wire arranged at least on the interconnecting element.

4. The acceleration sensor arrangement as in claim 1 or 2, wherein the detecting means comprises a conductive doped-silicon or polycrystalline silicon layer at least on the interconnecting element.

5. The acceleration sensor arrangement as in claim 3 or 4, wherein the interconnecting element is adapted to break when an external force affecting the second body portion of the acceleration sensor exceeds a predetermined threshold level, wherein a break of the interconnecting element causes a break in the conductive path, strip, wire, or layer.

6. The acceleration sensor arrangement as in claim 1 or 2, wherein the detecting means comprises a conductive strip or wire arranged at a distance from the second body portion, wherein the second body portion of the acceleration sensor moves and breaks the path, strip, or wire when an external force affecting the second body portion exceeds a predetermined threshold level.

7. The acceleration sensor arrangement as in any preceding claim, wherein the detecting means form a part of an electrical detection loop.

8. The acceleration sensor arrangement as in any preceding claim, wherein the indication is stored in a memory.

9. The acceleration sensor arrangement as in any preceding claim, wherein the indication is remotely readable.

10. The acceleration sensor arrangement as in any preceding claim, wherein the acceleration sensor is produced by micromachining technology using a surface mountable brittle material.

11. The acceleration sensor arrangement as in claim 10, wherein the brittle material is single crystal silicon.

12. The acceleration sensor arrangement as in claim 10, wherein the brittle material is polycrystalline silicon.

5 13. The acceleration sensor arrangement as in any preceding claim, wherein the indication contains at least information identifying a detecting loop broken by an external acceleration force.

14. The acceleration sensor arrangement as in claim 13, wherein the indication further contains the time when the indication was given.

10 15. The acceleration sensor arrangement as in any preceding claim, wherein the status of the acceleration sensor arrangement is readable immediately or from the memory.

16. The acceleration sensor as in claim 15, wherein at least one of the acceleration sensors in the arrangement is adapted to give a warning to the user when an external force affecting the second body portion exceeds a predetermined threshold level.

17. The acceleration sensor arrangement as in any preceding claim, wherein all sensors of the arrangement are integrated in a single block.

20 18. The acceleration sensor arrangement as in any preceding claim, wherein the acceleration of any of the sensors of the arrangement is remotely identifiable.

19. The acceleration sensor arrangement as in claim 17 or 18, wherein the single block further comprises means for storing indications containing at least the time when the indication was given and the identity of the detecting means.

25 20. The acceleration sensor arrangement as in any of claims 1-16, wherein all sensors of the arrangement are integrated in a multichip module together with means for storing indications containing at least the time when the indication was given and the identity of the detecting means.

30 21. The acceleration sensor arrangement as in any of claims 1-16, wherein all sensors of the arrangement are integrated in an integrated circuit together with means for storing indications containing at least the time when the indication was given and the identity of the detecting means.

35 22. A handheld terminal, characterized by an acceleration sensor arrangement comprising a group of at least two acceleration sensors, at least two of the sensors responding to different forces, an acceleration sensor comprising a first body portion, a second body

portion, an interconnecting element making the first body integral with the second body, and detecting means arranged for giving an indication when the second portion damages the detecting means and further giving an indication to the terminal user of the event.

5 23. The handheld terminal as in claim 22, wherein the acceleration sensor arrangement being arranged to indicate to the terminal when an acceleration force affecting at least one acceleration sensor of the arrangement exceeds a predetermined threshold level and to give a warning to a user of the terminal if said indicating is active when the terminal is
10 switched on.

24. A method in an acceleration sensor arrangement comprising a group of at least two acceleration sensors, an acceleration sensor comprising a first body portion, at least one second body portion and an interconnecting element making the first body portion integral with the at least one second
15 body portion, the method comprising giving an indication when a second body portion of at least one acceleration sensor of the arrangement damages at least one detecting means.

25. The method as in claim 24, the method further comprising registering in a non-volatile memory last two time-stamped power-down and
20 power-up status events by overwriting a previously registered time-stamped data as long as the status of the detecting means of the acceleration sensor arrangement is the same as previously.